CLAIMS

1. A method for automatically monitoring the wear of a chain when in operation in a chain drive assembly, comprising the steps of applying first and second markers to the chain at a predetermined distance apart along the length of the chain, positioning a first sensor adjacent to the chain to coincide with the position of the first marker, positioning a second sensor adjacent to the chain to coincide with the position of the second marker, the sensors being capable of generating signals in response to the detection of the proximity of the markers, operating the chain drive assembly so that the first and second sensors are initially triggered substantially simultaneously by said first and second markers respectively, detecting elongation of the chain by determining when a predetermined time delay occurs between the triggering of the first and second sensors by the respective markers, moving at least one of the sensors to a position where substantially simultaneous triggering of the sensors by the markers is resumed, and measuring the distance the sensor is moved to determine the elongation length of the chain.

2. A method according to claim 1, wherein only one of the sensors is moved.

3. A method according to claim 1, wherein both of the sensors are moved.

4. A method according to claim 3, wherein the sensors are moved together.

5. A method according to any one of claims 1 to 4, wherein two or more parallel chains are used in the drive assembly, further comprising the steps of determining the elongation of each of the chains and comparing the elongation of each chain over time.

6. A method according to any one of claims 1 to 5, further comprising the step of comparing the determined elongation length with a predetermined threshold value and issuing an alarm signal if the calculated value exceeds the threshold value.

7. A method according to claim 5, wherein two or more sets of first and second sensors are used to monitor wear in two or more chains, each of the chains having at least two markers.

8. A method according any one of claims 1 to 7, further comprising the step of monitoring the chain wear at different sections along a chain by using more than two markers, and determining the chain elongation at each of the different sections along the chain.

9. A method according to claim 8, further comprising the step of comparing the determined values of chain elongation at each of the different sections along the chain and issuing an alarm signal if one section of the chain is wearing more rapidly than another.

10. A method for automatically monitoring the wear of a chain substantially as hereinbefore described with reference to the accompanying drawings.

11. Chain wear monitoring apparatus for automatically monitoring the wear of a chain when in operation in a chain drive assembly, the apparatus comprising: first and second sensors mounted on a support, first and second markers disposed at a predetermined distance apart along the length of the chain, the first sensor being disposed adjacent to the first marker and the second sensor being disposed adjacent to the second marker, the sensors each being capable of generating a signal in response to the detection of the proximity of a marker, means for detecting a time delay between the first sensor being triggered by said first marker and the second sensor being triggered by said second marker, at least one of the sensors being movable to position where substantially simultaneous triggering of the sensors by the markers is resumed, and means for measuring the distance the sensor is moved so as to determine the elongation length of the chain.

12. Apparatus according to claim 11, wherein one sensor is fixed and the other is movable.

13. Apparatus according to claim 11, wherein both sensors are movable.

14. Apparatus according to claim 13, wherein both sensors are fixed to a common movable support so that they can be moved together.

15. Chain wear monitoring apparatus substantially as hereinbefore described with reference to the accompanying drawings.